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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/553,417	10/17/2005	John Patrick Fitzgerald	041129-0110	1526
22428 7590 09/10/2007 FOLEY AND LARDNER LLP SUITE 500			EXAMINER	
			JOHNSTON, PHILLIP A	
3000 K STREE WASHINGTO			ART UNIT	PAPER NUMBER
WASHINGTON, DO 20007			2881	
		•		
	•		MAIL DATE	DELIVERY MODE
			09/10/2007	.PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		司
	Application No.	Applicant(s)
	10/553,417	FITZGERALD ET AL.
Office Action Summary	Examiner	Art Unit
	Phillip A. Johnston	2881
The MAILING DATE of this communication Period for Reply	appears on the cover sheet w	th the correspondence address
A SHORTENED STATUTORY PERIOD FOR REWHICHEVER IS LONGER, FROM THE MAILIN:  - Extensions of time may be available under the provisions of 37 CF after SIX (6) MONTHS from the mailing date of this communication:  - If NO period for reply is specified above, the maximum statutory properties to reply within the set or extended period for reply will, by some any reply received by the Office later than three months after the rearned patent term adjustment. See 37 CFR 1.704(b).	G DATE OF THIS COMMUNIONS  R 1.136(a). In no event, however, may a red.  n.  eriod will apply and will expire SIX (6) MON attaute, cause the application to become AB	CATION. eply be timely filed ITHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).
Status		
1) Responsive to communication(s) filed on 1	17 October 2005	
	This action is non-final.	
3) Since this application is in condition for alle		ers, prosecution as to the merits is
closed in accordance with the practice und		
Disposition of Claims		
4) Claim(s) 1-9 is/are pending in the application	on.	
4a) Of the above claim(s) is/are with	ndrawn from consideration.	
5) Claim(s) is/are allowed.		
6)⊠ Claim(s) <u>1-9</u> is/are rejected.		
7) Claim(s) is/are objected to.		
8) Claim(s) are subject to restriction a	nd/or election requirement.	
Application Papers		
9)☐ The specification is objected to by the Exar		
10)⊠ The drawing(s) filed on <u>17 October 2005</u> is		
Applicant may not request that any objection to	- · ·	
Replacement drawing sheet(s) including the co		
11) The oath or declaration is objected to by th	e Examiner. Note the attached	1 Office Action or form PTO-152.
Priority under 35 U.S.C. § 119		
12)⊠ Acknowledgment is made of a claim for for a)⊠ All b)□ Some * c)□ None of:	eign priority under 35 U.S.C. §	119(a)-(d) or (f).
1. Certified copies of the priority docum	nents have been received.	
2. Certified copies of the priority docun	nents have been received in A	pplication No
3. Copies of the certified copies of the	priority documents have been	received in this National Stage
application from the International Bu	reau (PCT Rule 17.2(a)).	
* See the attached detailed Office action for a	list of the certified copies not	received.
Attachment(s)	_	
1) Notice of References Cited (PTO-892)		Summary (PTO-413)
<ol> <li>Notice of Draftsperson's Patent Drawing Review (PTO-948</li> <li>Information Disclosure Statement(s) (PTO/SB/08)</li> </ol>		s)/Mail Date nformal Patent Application
Paper No(s)/Mail Date <u>10-17-2005</u> .	6) Other:	• •
C. Botost and Trademork Office		

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Art Unit: 2881

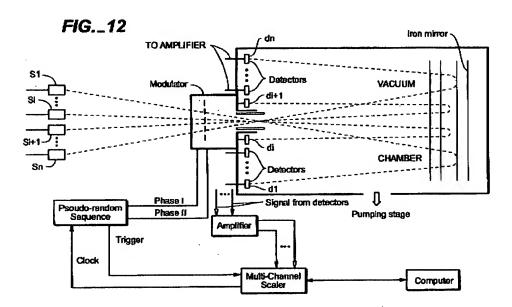
## **Detailed Action**

## Claims Rejection - 35 U.S. C. 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

- 2. Claims 1,3,4,6,8, and 9 are rejected under 35 U.S.C. 102 (b) as being anticipated by Brock, U.S. Patent No. 6,300,626.
- 3. Regarding claim 1, Brock discloses a detection system including a detection cell having an entry gate, the system including drive means for controlling switching of the gate, wherein the drive means is arranged to control switching of the gate in a pseudorandom binary sequence. See Col. line 21-46; Col. 7, line 26-53; and Figure 12 below.



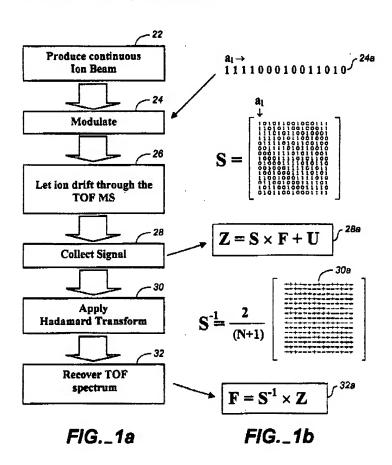
4. Regarding claim 6, Brock teaches all the structural limitations therein as pointed out above regarding claim 1.

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5. Regarding claims 3,4,8, and 9, Brock teaches analyzing the output with correlation matrix S (note Figure I b below), as well as deconvoluting the output. See Col. 4, line 40-57 Col. 7, line 26-53.

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Claims Rejection – 35 U.S.C. 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

<sup>(</sup>a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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7. Claims 2,5, and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,300,626 to Brock, in view of Zare, U.S. Patent No. 7,067,803.

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- 8. Brock teaches all the required limitations of claim 5, as pointed out with respect to claims 1 above, but fails to disclose the use of an IMS detection system.
  - 9. Zare teaches ion gating in ion mobility spectrometry (IMS). Col. 3, line 4-12.
- 10. Zare modifies Brock to provide an ion gate that is controlled with a pseudorandom binary sequence of 1's and 0's generated by a system of shift registers, split into two inverse phases, and used to drive a push-pull amplifier to form a train of square pulses.
- 11. Therefore it would have been obvious to one of ordinary skill in the art that Brock would use the ion gating system of Zare, to provide a decoding matrix corresponding to an encoding sequence that is used to decode a signal obtained by detecting the charged particle beam encoded with the corresponding encoding sequence.
- 12. Regarding claims 2 and 7 Brock teaches all the required limitations of the claims therein, as pointed out regarding claim 1 above, but fails to disclose the use of bit flipping.
- 13. However it is well known in the art to use bit flipping in pseudorandom generators to correct changes from a"1" state to a "0" state.
- 14. Therefore it would have been obvious for Brock to use bit flipping to correct for errors generated by noise in encoding.

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## Conclusion

15. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor Robert Kim can be reached at (571)272-2293. The fax phone number for the organization where the application or proceeding is assigned is 571 273 8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

August 30, 2007

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